

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A composition comprising chemically-precipitated particulate tricalcium phosphate (TCP) having an average particle size of about 5 μm or less, an average crystal size of about 250 nm or less and a surface area of about 20 m^2/g or greater, wherein the TCP composition can be consolidated to form a TCP article having a compressive strength of about 50 MPa or greater.
2. (Original) The composition of claim 1, wherein the particulate TCP has an average particle size of about 1 μm or less.
3. (Original) The composition of claim 1, wherein the particulate TCP has an average crystal size of about 200 nm or less.
4. (Original) The composition of claim 1, wherein the particulate TCP comprises α -TCP, β -TCP, or a combination thereof.
5. (Original) The composition of claim 1, wherein the particulate tricalcium phosphate is densified.
6. (Original) The composition of claim 1, further comprising a secondary additive.
7. (Original) The composition of claim 6, wherein the secondary additive is present in an amount of between about 1% and about 50% by volume.
8. (Original) The composition of claim 6, wherein the secondary additive comprises a structural additive.
9. (Original) The composition of claim 8, wherein the structural additive comprises a metal oxide.
10. (Original) The composition of claim 9, wherein the metal oxide comprises zirconia.
11. (Original) The composition of claim 8, wherein the structural additive has an aspect ratio of about 2 or greater.

12. (Original) The composition of claim 6, wherein the secondary additive is an organic species.

13. (Original) The composition of claim 6, wherein the secondary additive is a polymeric additive.

14. (Original) The composition of claim 13, wherein the polymeric additive is selected from the group consisting of polylactic acid, polyglycolic acid, polylactic/polyglycolic acid copolymers, polypropylenefumarate, polyhydroxybutyric acid, polyhydroxyvaleric acid, polycaprolactone, polyhydroxycarboxylic acids, polybutyrene succinate, polybutylene adipate, collagen, chitosan, alginate, celluloses, starches, sugars, polypeptides, polyethylene glycols, vinyl pyrrolidones, acrylamides, methacrylates, copolymer micelles, and combinations thereof.

15. (Original) The composition of claim 6, wherein the secondary additive is a biological additive.

16. (Original) The composition of claim 15, wherein the biological additive is selected from the group consisting of plasmid DNA, RNA, proteins, bone morphogenetic proteins, and combinations thereof.

17. (Original) The composition of claim 6, wherein the secondary additive is a pharmaceutical additive.

Claims 18-68 (Canceled)

69. (Previously Presented) The composition of claim 1, wherein the TCP composition can be densified to form a TCP article having a compressive strength of 150 MPa or greater.

70. (Previously Presented) The composition of claim 1, wherein the TCP composition can be densified to form a TCP article that is able to transmit about 50% or more light having a wavelength in the range of about 150 nm to about 1,000 nm.

71. (Currently Amended) A composition comprising chemically-precipitated particulate tricalcium phosphate (TCP) having an average particle size of about 5 μm or less, an average crystal size of about 250 nm or less and a surface area of about 20 m^2/g or greater,

wherein the TCP composition can be densified to form a TCP article having a density that is 60% of the theoretical density or greater.

72. (Previously Presented) The composition of claim 71, wherein the TCP composition can be densified to form a TCP article having a density that is 90% of the theoretical density or greater.

73. (Previously Presented) The composition of claim 71, wherein the TCP composition can be sintered to form the densified TCP article at a temperature of about 400° C to about 1400° C.

74. (New) The composition of claim 1, wherein the particulate TCP is α -TCP.

75. (New) The composition of claim 71, wherein the particulate TCP is α -TCP.

76. (New) A composition comprising calcined particulate tricalcium phosphate (TCP) having an average particle size of about 5 μm or less, an average crystal size of about 250 nm or less and a surface area of about 40 m^2/g or greater, wherein the TCP composition can be consolidated to form a TCP article having a compressive strength of about 50 MPa or greater.

77. (New) The composition of claim 76, wherein the particulate TCP is α -TCP.